

What is claimed is:

1 1. A land mobile-satellite communication system comprising:  
2 at least one communication satellite station;  
3 a plurality of portable communication terminals for  
4 communicating with each other through a communication link  
5 to be formed to include said at least one communication satellite  
6 station; and

7 a plurality of mobile repeater stations mounted on mobiles  
8 located on the earth for repeating a communication in said  
9 communication link formed between said portable  
10 communication terminals and including said at least one  
11 communication satellite station.

2 2. The land mobile -satellite communication system as  
claimed in claim 1 including,

3 a plurality of said communication satellite stations  
4 respectively mounted on a plurality of low earth  
5 communication satellites and each said station including a  
6 means for communicating with other said stations through  
7 inter-satellite links.

1 3. The land mobile-satellite communication system as claimed  
2 in claim 2, wherein :

3 said mobile repeater stations include a means for  
4 communicating with said communication satellite stations by  
5 using a carrier wave of higher frequency than a frequency of a  
6 carrier wave to be used for communicating with said portable  
7 communication terminals.

1 4. The land mobile -satellite communication system as  
2 claimed

3 in claims 2, wherein;

4 said portable communication terminals include a means  
5 for transmitting a position signal repeatedly, said position signal  
6 including an identification code of the portable communication

7 terminals and a test pattern;

8 said mobile repeater stations include a means for  
9 transmitting a repeated position signal to said communication  
10 satellite stations by adding a self identification code to said  
11 position signal received from said portable communication  
12 terminals ; and

13 said communication satellite stations include a means for  
14 selecting one of said mobile repeater stations which transmits  
15 said repeated position signal including the test pattern having a  
16 highest quality to be a mobile repeater station for the portable  
17 communication terminals.

1 5. The land mobile -satellite communication system as  
2 claimed

3 in claims 3, wherein;

4 said portable communication terminals include a means  
5 for transmitting a position signal approximately periodically,  
6 said position signal including an identification code of the  
7 portable communication terminals and a test pattern;

8 said mobile repeater stations including a means for  
9 transmitting a repeated position signal to said communication  
10 satellite stations by adding a self identification code to said  
11 position signal received from said portable communication  
12 terminals ; and

13 said communication satellite stations include a means for  
14 selecting one of said mobile repeater stations which transmits  
15 said repeated position signal including the test pattern having a  
16 highest quality to be a mobile repeater station for the portable  
17 communication terminals.

1 6. The land mobile -satellite communication system as  
2 claimed in claim 2, wherein :

3 said portable communication terminals include a means for  
4 communicating with said mobile repeater stations as well as  
5 with conventional land mobile communication systems.

1 7. The land mobile-satellite communication system as claimed  
2 in claim 2, wherein :

3 said mobile repeater stations include a means for converting  
4 at least one of frequency and modulation for communication by  
5 changing software to allow communication with conventional  
6 land mobile communication systems.

1 8. The land mobile- satellite communication system as claimed  
2 in claim 2, wherein:

3 said communication satellite stations include a means for  
4 transmitting information about their own position; and

5 said mobile repeater stations include means for aiming an  
6 antenna beam thereof at the communication satellites according  
7 to received information about the position of the communication  
8 satellites and a detected position of the mobile repeater stations.

1 9. The land mobile- satellite communication system as claimed  
2 in claim 3, wherein:

3 said communication satellite stations include a means for  
4 transmitting information about their own position; and

5 said mobile repeater stations include means for aiming an  
6 antenna beam thereof at the communication satellites  
7 according to received information about the position of the  
8 communication satellites and a detected position of the mobile  
9 repeater stations.

1 10. The land mobile- satellite communication system as claimed  
2 in claim 2, wherein:

3 said communication satellite stations include a means for  
4 functioning as a Peering points or Proxies to provide  
5 accessibility to conventional land mobile telephone systems or  
6 Internet.

1 11. The land mobile- satellite communication system as claimed  
2 in claim 2, wherein:

3 said communication satellite stations include a means for

4 storing data received from said portable communication  
5 terminals and for functioning as servers.

1 12. The land mobile- satellite communication system as claimed  
2 in claim 2, wherein:

3 said mobile repeater stations include a means for  
4 responding to a request from said communication satellite  
5 stations and / or portable communication terminals and for  
6 functioning as providers.

1 13. The land mobile- satellite communication system as claimed  
2 in claim 1, wherein:

3 said mobile repeater stations include a means for  
4 communicating with said at least one communication satellite  
5 station by using a carrier wave of higher frequency than a  
6 frequency of a carrier wave to be used for communicating with  
7 said portable communication terminals.